

WHAT IS CLAIMED IS:

1. A color image processing apparatus comprising:

a plane signal conversion unit which generates a plane signal by converting a color space expressed by an input color image signal to a plane;

a chroma identification unit which identifies a chroma of the color image signal based on the plane signal generated by said plane signal conversion unit and generates a chroma identification signal;

10 a hue area identification unit which identifies a hue area in the color image signal based on the plane signal generated by said plane signal conversion unit and generates a hue area identification signal, and

a color conversion unit which executes color conversion of the color image signal based on the chroma identification signal generated by said chroma identification signal and the hue area identification signal generated by said hue area identification unit.

20 2. The color image processing apparatus according to claim 1 further comprising a color conversion instruction unit which instructs conversion of a color specified by an operator to an another color also specified by the operator,

wherein said color conversion unit executes color conversion of the color image signal based on the color

instructed by said color conversion instruction unit.

3. The color image processing apparatus according to claim 1 further comprising:

5 a masking coefficient computing unit which computes masking coefficients for a plurality of hue areas; and

a masking coefficient selection unit which selects a masking coefficient from those computed by said masking coefficient computing unit based on the chroma identification 10 signal generated by said chroma identification unit and the hue area identification signal generated by said hue area identification unit,

wherein said color conversion unit executes color conversion of the color image signal using the masking coefficient selected by said masking coefficient selection 15 unit.

4. The color image processing apparatus according to claim 3, wherein said hue area selection unit selects a hue area in 20 the color image signal based on the color instructed by said color conversion instruction unit.

5. An image processing apparatus comprising:

a plane signal conversion unit which converts an image 25 signal expressed on a color space to an image signal on a plane;

a chroma identification unit which identifies a chroma of the image signal based on the image signal converted by said plane signal conversion unit;

5 a hue area identification unit which identifies a hue of the image signal based on the image signal converted by said plane signal conversion unit; and

10 a color conversion unit which executes color conversion of the image signal expressed on the color space based on a signal input from said chroma identification unit and a signal input from said hue area identification unit.

6. The image signal processing apparatus according to claim 5 further comprising an operation unit which makes it possible for an operator to input an instruction for converting a color 15 in an image signal expressed on the color space to an another color.

7. An image processing apparatus comprising:
20 a plane signal conversion unit which converts an image signal expressed on a color space to an image signal on a plane;

a chroma identification unit which identifies a chroma of the image signal based on the image signal converted by said plane signal conversion unit;

25 a hue area identification unit which identifies a hue of the image signal based on the image signal converted by said

plane signal conversion unit;

a masking coefficient selection unit which selects an optimal masking coefficient for the image signal based on a signal input from said chroma identification unit and a signal input from said hue area identification unit; and

a color conversion unit which executes color conversion of the image signal expressed on the color space based on a result of selection by said masking coefficient selection unit.

10 8. The image processing apparatus according to claim 7, wherein said masking coefficient selection unit selects a masking coefficient excluding a hue area from the image signal expressed on the color space.

15 9. The image signal processing apparatus according to claim 7 further comprising an operation unit which makes it possible for an operator to input an instruction for converting a color in an image signal expressed on the color space to an another color.

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10. A color image processing method comprising:

a plane signal conversion step at which a plane signal is generated by converting a color space expressed by an input color image signal to a plane;

25 a chroma identification step at which a chroma

identification signal is generated by identifying a chroma of the color image signal based on the plane signal generated at the plane signal conversion step;

5 a hue area identification step at which a hue area is identified in the color image signal based on the plane signal generated at the plane signal conversion step and a hue area identification signal is generated; and

10 a color conversion step at which color conversion of the color image signal is executed based on the chroma identification signal generated at the chroma identification step and the hue area identification signal generated at the hue area identification step.

11. The color image processing method according to claim 10
15 further comprising a color conversion instruction step at which color conversion from a color specified by an operator to another color also specified by the operator is instructed, wherein color conversion of the color image signal is executed based on the color instructed at the color conversion
20 step.

12. The color image processing method according to claim 10 further comprising:

25 a masking coefficient computing step at which masking coefficients for a plurality of hue areas are computed; and

5 a masking coefficient selection step at which a masking coefficient is selected from those computed at the masking coefficient computing step based on the chroma identification signal generated at the chroma identification step and the hue area identification signal generated at the hue area identification step,

wherein color conversion of the color image signal is executed at the color conversion step using the masking coefficient selected at the masking coefficient selection step.

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13. The color image processing method according to claim 12, wherein a hue area in the color image signal is selected at the hue area selection step based on the color instructed at the color conversion instruction step.

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14. An image processing method comprising:

a plane signal conversion step at which an image signal expressed on a color space is converted to an image signal on a plane;

20 a chroma identification step at which a chroma of the image signal is identified based on the image signal converted at the plane signal conversion step;

25 a hue area identification step at which a hue of the image signal is identified based on the image signal converted at the plane signal conversion step; and

a color conversion step at which color conversion of the image signal expressed on the color space is executed based on the signal identified at the chroma identification step and the signal identified at the hue area identification step.

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15. An image processing method comprising:

a plane signal conversion step at which an image signal expressed on a color space is converted to an image signal on a plane;

10 a chroma identification step at which a chroma of the image signal is identified based on the image signal converted at the plane signal conversion step;

15 a hue area identification step at which a hue of the image signal is identified based on the image signal converted at the plane signal conversion step;

a masking coefficient selection step at which a masking coefficient optimal to an image based on the signal identified at the chroma identification step and a signal identified at the hue area identification step; and

20 a color conversion step at which color conversion of the image signal expressed on the color space is executed based on the result of selection at the masking coefficient selection step.

25 16. The image processing method according claim 15, wherein

a masking coefficient is selected excluding a hue area from the image signal expressed on the color space at the masking coefficient selection step.

5 17. A computer-readable recording medium in which a program for making a computer execute a color image processing method is recorded, said method comprising the steps of:

10 a plane signal conversion at which a plane signal is generated by converting a color space expressed by an input color image signal to a plane;

15 a chroma identification at which a chroma identification signal is generated by identifying a chroma of the color image signal based on the plane signal generated at the plane signal conversion step;

20 a hue area identification at which a hue area is identified in the color image signal based on the plane signal generated at the plane signal conversion step and a hue area identification signal is generated; and

25 a color conversion at which color conversion of the color image signal is executed based on the chroma identification signal generated at the chroma identification step and the hue area identification signal generated at the hue area identification step.

25 18. A computer-readable recording medium in which a program

for making a computer execute an image processing method is recorded, said method comprising the steps of:

5 a plane signal conversion at which an image signal expressed on a color space is converted to an image signal on a plane;

a chroma identification at which a chroma of the image signal is identified based on the image signal converted at the plane signal conversion step;

10 a hue area identification at which a hue of the image signal is identified based on the image signal converted at the plane signal conversion step; and

15 a color conversion at which color conversion of the image signal expressed on the color space is executed based on the signal identified at the chroma identification step and the signal identified at the hue area identification step.